

dislocations, sprains, asphyxia, removal of foreign bodies and poisoning. A chapter on the transportation of the injured terminates the book. Here the author follows the drill regulations of the United States Army Corps. Throughout the book the treatment is, with few exceptions, limited to temporary assistance pending the arrival of medical aid. There are numerous illustrations, many of them original, which go far towards clearing up points in the text which might otherwise be misunderstood. This book certainly justifies the author's claims and we unhesitatingly recommend it alike to physicians, nurses and laymen.

K. I. L.

Behind the Scenes With the Mediums. By David P. Abbott. The Open Court Publishing Company, Chicago. Price \$1.50 net.

Many years ago two little girls, the Fox Sisters, startled the world with their mysterious rappings. This was the beginning of modern Spiritualism. Soon after this, mediums began appearing all over the country, who could cause raps to sound on furniture, tables to tip, etc. Next, professional mediums began traveling over the country, giving exhibitions in rope-tying and cabinet manifestations. Later came the slate-writing, the billet test mediums, etc., until at the present day there are many hundreds of persons following this profession for a livelihood. There are several hundreds of them in Chicago alone.

In the present work, Mr. Abbott has given to the public a collection of the most valuable secrets of mediumistic work in existence.

Most of the secrets revealed in this book were obtained by Mr. Abbott directly from mediums, while he purchased not a few of them from dealers at exorbitant prices. He has given his very best secrets in this work; and being a practical performer himself, although not a medium, he has included only up-to-date secrets that are thoroughly professional and practical and such as are actually being used by professional performers and mediums of the present day, in mystifying an innocent public.

For the magician and performer this book is invaluable, while for the honest spiritualist it is a boon long needed. Honest believers in Spiritualism do not desire to be duped by impostors and charlatans. In this book many tricks of such persons are so thoroughly exposed, that by studying its pages any one may become a competent investigator of any phenomenon of a super-normal appearance.

That the reader may understand how the secrets herein revealed have been treasured and guarded from the public heretofore, and of the value placed on them by performers, we will state that the value of the secrets contained in this volume estimated at the prices charged for them by dealers, would run into hundreds of dollars. Not a few of the secrets contained have sold at twenty-five dollars each, while a number of them have never even been offered for sale, the little chapter on "Vest Turning" contains a secret that is being sold today for two dollars and fifty cents, while the secret contained in the chapter, "Performances of the Annie Eva Fay Type" was sold to a medium of Mr. Abbott's acquaintance for two hundred and fifty dollars.

Many of the slate tricks are worth at least ten dollars each, and the book is very complete in its exposure of slate-writing and billet work. The exposure of the billet tests of certain Chicago mediums of the present day is of great value. It is impossible to enumerate here all the valuable secrets which this work contains. Owing to the bearing of the subject on the question of personal immortality, the work has a certain philosophical import; and in addition to this, descriptions are presented in a very interesting manner.

Mr. Abbott is a member of the American Society for Psychical Research and has written on the subject for the journal of that society.

Tumors Innocent and Malignant; Their Clinical Characters and Appropriate Treatment. By J. Bland-Sutton, F. R. C. S., Surgeon to and Member of the Cancer Investigation Committee of the Middlesex Hospital, etc. Fourth Edition, With Three Hundred and Fifty-five Engravings. W. T. Keener & Co., Chicago. MCMVII.

Those who care only for the purely academic side of the study of tumors will find in this volume little of interest. Written more from the standpoint of the clinician than from that of the professional pathologist, it naturally has found greater favor amongst practitioners of medicine than scientific investigators. The story of this singularly varied and fascinating world of tumors was a bold thing to undertake; yet Dr. Sutton, peculiarly well fitted for the task, contributed four years ago an admirably well conceived one, which has since been revised and now appears in its fourth edition. In no sense, however, does the present volume constitute a complete review of the pathology of tumors, although it is evident that some effort has been made to embody a few of the ideas that modern investigations have brought with them. Since many of the recent achievements in the study of human pathology have had their origin in observations on lower animals the liberal use by the author of comparative pathology, for the purposes of illustrations, gives a breadth of view not ordinarily found in similar books.

The introductory chapter consists of a rather general discussion of tumors, brief allusion being made to such matters as the liability of organs to the development of tumors, environment in relation to their development, age distribution, multiplicity, and the transformation of innocent into malignant growths; but no mention is here made of the degenerative and destructive processes often encountered in them, of the characteristics which stamp malignancy, nor to the presence of new elastic tissue or nerves. The classification of neoplasms followed by the author is, in greater part, that usually found in text-books of pathology. The separation of the normal tissues into groups is useful, rather because it facilitates their study than because it expresses absolute and fundamental distinctions; the same may be said of all classifications of tumors. The attempt has often been made to classify them with reference to the developmental history of the tissues represented, and it has been generally believed that cells once differentiated in the primary embryonic layers cannot again be merged in type. While this principle holds good in general, particularly for the highly differentiated forms, certain recent studies have seemed to indicate that even this distinction may not be inflexible. Whatever the truth of this may be, it is certain that the cells derived from one embryonic layer may under more or less perfectly understood conditions come so closely to resemble morphologically those of another layer, that a structural differentiation, with our present methods of study, is not always possible. Nevertheless this histogenetic principle of classification is useful and suggestive.

These points have already been exhaustively considered by Marchand in his paper on "The Relationship Between Pathological Anatomy and Embryology," and later by Minot in his admirable address on "The Embryological Basis of Pathology."

Almost the whole of the first third of the book, consisting of about 215 pages, deals with new-growth of the connective-tissue group. The essential points are given with more or less complete-

ness; but sometimes the histological and clinical descriptions are extraordinarily meagre. Thus, the section on myeloma can be regarded as containing neither a precise pathological description nor a good clinical picture of the condition. The myelocytosis so often associated with these tumors is not even mentioned. The discussion of sarcomata likewise lacks precision and comprehensiveness. Sarcoma of the intestine is dismissed in a few lines, and in the list of references to this article Balzer's masterly paper and Libman's critical article are both omitted. About sixty lines are given to the discussion of sarcoma of the thyroid gland, although within the last few years Lartigau, and Muller and Speese, have contributed articles of some length. Still more disappointing is the chapter on sarcoma of the bones. One cannot avoid comparison with the classic paper of Gross published in 1879, or the more recent articles of Reinhardt, Kocher, Mayer and Coley. Much better, on the other hand, is the discussion of renal sarcoma. Attention is drawn to the bone metastases of hypernephromas. Of considerable interest in this connection is the paper of Scudder published since the publication of the present edition of this book. The following practical suggestions are made by Scudder: A bone metastasis may be the first sign of a hypernephroma; a bone tumor in a middle-aged or elderly person should suggest a metastatic hypernephroma, for a primary bone tumor in elderly people is uncommon; the bone metastasis from a hypernephroma may exist without symptoms for a considerable period; the kidney region should be palpated with great care in every case of bone tumor.

The brief description accorded melanosarcoma of the skin takes no cognizance of the noteworthy investigations of Unna, v. Recklinghausen, Ribbert, and of Gilchrist in this country. In the last few years the histogenesis of these tumors has been the subject of lively controversy. It was the earlier opinion of pathologists that a metanosarcoma may originate, as does every other sarcoma, from any place in the connective tissue, and is distinguished only by the pigment which is formed by the tumor cells; in other words, a melanosarcoma was classified as a species of sarcoma. The first investigator to contest this opinion was v. Recklinghausen, who asserted that pigmented nevi and the melanosarcomata arising from them, originate only from a particular variety of connective tissue cells, namely, from the endothelia of lymph vessels and clefts. Unna, on the other hand, in 1893 advanced the view that they arise not from connective tissue but from epithelia, which at some time have been cut off from their original site and have become completely surrounded by connective tissue. Hence Unna insists that these tumors should be classified as melanocarcinomata and not as melanosarcomata. This opinion was later adopted by Krohmayer and Delbanco. Ribbert, however, believes that these tumors are of connective tissue origin; but according to him, not every connective tissue cell can give rise to melanosarcoma. While other authors have previously held that the pigment and its distribution in these tumors were entirely independent of its growth, Ribbert asserts that a melanotic tumor can only originate from a special connective tissue cell which produces pigment—the chromatophores. Most writers who have since investigated the subject, including Gilchrist, Johnston and Schalek, favor the view expressed by Unna.

The endotheliomata are also lightly passed; considering the wealth of contributions which have appeared the twenty-five lines devoted to these tumors scarcely do justice to our knowledge regarding them. Since the discovery in 1862 by v. Recklinghausen of the lining cells of the lymph vessels, interesting controversies have been carried on con-

cerning the nature of endotheliomata. For a time considerable difference of opinion prevailed regarding the derivation of endothelium, although at the present time it is generally conceded to be of mesothelial origin; later, discussions became largely centered on the relationship of tumors originating from the lining cells of cavities like the peritoneal and pleural and those springing from the endothelium of lymph and blood vessels. However, Sala's researches seem to have established the identity of the endothelium of blood and lymph vessels and that of the serous cavities. Minot, on the other hand, still persists in distinguishing between the two by calling the former endothelium and the latter mesothelium. Interesting are also the investigations of Heidenhain, Hamburger and Ranvier, who have shown that endothelial cells possess a secretory function and take part in the elaboration of lymph, secrete hyaline and amyloid substance and mucin. Briefly, most observers now consider the endothelial cell of mesodermic origin, a modified mesenchymal cell, such as forms the connective tissue around it, retaining its ability under certain conditions to behave like a connective tissue cell, yet morphologically like an epithelial cell, acquiring at least some of the functions of the latter. The literature of endotheliomata is more or less confusing on account of variable nomenclature employed in the past. Depending on the viewpoint of the writer these tumors have been variously described as endothelial sarcoma (Fischer, Cramer and Rindfleisch), sarcoma plexiforme (Ewetzky), alveolar sarcoma (Billroth), angiosarcoma (Waldeyer, Kolaczek and Hippel), endothelial cancer (Schulz), connective tissue cancer (Neumann), sarco-carcinoma (Bohme), etc. For a fuller discussion of these interesting growths we recommend the learned contribution of Volkmann and the article in Lubarsch's "Ergebnisse der allgemeinen Pathologie, Jahrg. I., Abath. 2, p. 366; and Jahrg. II., p. 592, neither of which are mentioned in Sutton's list of references.

The practical importance of fibroid growths of the uterus is well reflected in the lengthy discussion accorded the matter. Most phases of the subject are well handled except the part devoted to malignant changes in fibroids which hardly sufficiently emphasizes the possibilities in this regard. Noble of Philadelphia has lately published the results of his own and others' investigations on these degenerations in 2274 cases which showed sarcoma in almost 1.5 per cent. From the study of 4880 consecutive cases he also corroborates the conclusion of Winter that fibroids of the uterus predispose to the development of cancer of the body of this organ.

The general aspects of the cancer question are briefly treated after the conventional manner. While no reference is made in the article to the incidence of cancer in different parts of the world it may not be amiss to allude to the painstaking paper of Guthrie McConnell on the geographical distribution of cancer in the United States based on the Twelfth Census. This shows that the incidence was greatest in the Pacific Coast region, 51.9 per 10,000 deaths; in the heavily timbered region of the Northwest, 46.8; in the Northwestern hills and plateaus, 44.5; in the prairie region, 43. It was least in the southern interior plateau, 18.1; in the Southwest Central region, 15.8, and in the North Mississippi River belt, 11.3. This agrees with the conclusions of Wolff, who showed that the distribution of cancer did not depend upon geographical conformation, rainfall, or elevation, but that it was apparently more frequent in great river valleys and in wooded districts.

Notwithstanding great activity shown within the last few years in the study of cancer its origin still remains obscure. Investigation, nevertheless, has

lately thrown a flood of light on many hitherto little suspected phases of the question. Knowledge of the scope and results of this experimental work is essential to a clearer viewpoint of the prevailing, but irreconcilable opinions held by different observers. The omission, therefore, in Sutton's resume "Concerning the Cause of Cancer" of the observations upon which these views are based is regrettable. The prevailing theories are merely outlined; and the historically interesting hypothesis of Thiersch is not even mentioned, nor do we find any reference to that championed by Ribbert in 1894. The account is not worthy of the labors and achievements of investigators who, although failing in the object of their quest, have contributed much which has had great influence in directing research along other and more promising lines.

Writers on the subject may be divided in two classes, one believing that the epithelial proliferation in cancer is due to some biological peculiarity of the cells themselves, the other that it is due to a living parasite. The well-known embryonic theory advanced by Cohnheim in 1882 is based on the assumption that in each of the primary embryonic layers more cells are produced than are necessary for the development of the adult tissues, and that some of these surplus embryonic cells do not develop into the normal tissues of the body, but persist as "rests" which have the "potentiality of growth" characteristic of fetal cells, although they present no gross or histological peculiarities which will permit of recognition. These supposititious "rests" once produced have an ultimate fate dependent upon various accessory conditions which may or may not act as a stimulus to their further development. It would be conceivable that an individual in whom these "rests" developed might grow to adult life and die without any accessory cause ever stimulating them to unlimited growth. Or the proliferation of these "rests" might begin at a very early stage of fetal life, and in this way the occurrence of congenital tumors could be explained. Or the accessory causes might become active during any period of life, early childhood, or young adult life, or the "rests" might remain quiescent during many years and be excited to growth only during later life. Thus could be explained the occurrence of exostoses at the time of greatest bone activity or of ovarian cysts at puberty or of breast tumor during pregnancy or the occurrence of cancer in late adult life. Of this theory of the origin of tumors Sutton says, "It is in itself a brilliant generalization, and has served a valuable purpose in leading to a great extension of knowledge in regard to vestiges and rests."

Ribbert's theory, which is entirely disregarded by Sutton, is based on the histological study of very early cancers. From such investigations he believes that the epithelial proliferation is due primarily to a separation of epithelial cells from their attachment to the normal epithelial layers by the action of connective tissue. These freed epithelial cells still retaining their power of growth, get into the clefts between the connective tissue cells, proliferate, and thus form islands of epithelial cells, which, freed from the normal restraining influence of other tissues, have an unlimited power of growth. There is some evidence, clinical and experimental, that normal epithelium, set free by accident or design from its original attachment, may retain its power of growth and produce nodules or cysts of epithelium, but there is no proof that malignant tumors may be so produced. Following injury, cysts lined with epithelium, however, have been reported by Wegner, Bohm, Le Fort, Garre, Blumberg, Paulet, Reverdin and Gironde. Cysts have also been produced experimentally by Schweininger and Kaufmann. Ribbert's hypothesis, fascinating as it is,

still leaves us ignorant of the exact origin of cancer.

Observations made within the last two or three years have suggested the theory that cancers may be considered to be parasitic individuals engrafted on a normal individual, and that they are produced by the conjugation of cells in a way analogous to conjugation or sexual cells which produce a normal individual. Farmer, Moore and Walker investigated cancers and concluded that the reduction in the number of chromosomes in the mitosing cells occurred in the same manner as in the ripening of the sexual cells of animals and plants, and that the number of these chromosomes were half as numerous as in the somatic cells. Bashford and Murray have since confirmed this by observations showing a series of changes in the nuclei of malignant tumors throughout the whole extent of their known zoological distribution parallel to those characteristics of the maturation of the sexual elements of the metazoa. Sutton apparently is much impressed with these facts for he considers them with some fullness; and there is little doubt that this constitutes an important step in the solution of the problem of the origin of tumors.

As early as 1790 cancer was considered an infectious disease, but it is only since Thoma, in 1889, called attention to certain unicellular bodies in the epithelial cells of cancer that the parasitic theory came into vogue. Of recent years these and other bodies have been closely studied by Russell, Ruffer and Walker, Sjobring, Plimmer, Sanfelice and others, and for various reasons have been regarded by them as parasites, either blastomycetes or protozoa. The careful studies of Pianese, Borrel and Tadoa Honda, however, have shown that these bodies were the result of cell degeneration, centrosomes, etc. The experimental and "cultural" evidences of Schueller, Gaylord and others are not more convincing. From a review of the evidence the conclusion seems inevitable that little has been brought forward which justifies the assumption that cancer is parasitic in origin. A critical review of this theory was published a short time ago and may be found in the Third Report of the Caroline Brewer Croft Cancer Commission of the Harvard Medical School.

Cancer of the uterus is well handled. A more detailed description of the manner and extent of metastases would undoubtedly have added to the value of the discussion. The painstaking investigations of Kundrat of Wertheim's Clinic and the careful work of Baisch in Doederlein's Clinic are entirely overlooked. Kundrat's work is particularly noteworthy; it is based on serial sections of the parametrial tissue and lymph nodes from eighty cases of carcinoma of the cervix. Three years were consumed in this research and over 21,000 microscopic sections were studied. More recently Sampson has restudied the matter, corroborating the conclusions of the last named investigators.

In looking over the account of primary cancer of the common bile duct we find that the papers of Pic, Luzzato, Schuller and Letulle have been entirely overlooked; the description is so meagre that it is little else than useless. Much better is the discussion of tumors of the teeth. Some valuable observations have also been collated regarding new growths of the ovary and the testicles, but the piece de resistance consists of fifty pages on teratomata and dermoids. The book terminates with a good chapter on hydatid cysts of various organs.